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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,713	02/06/2002	Hilmar Gugel	21295-40	8638

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EXAMINER

NGUYEN, THONG Q

ART UNIT PAPER NUMBER

2872

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,713

Applicant(s)

GUGEL ET AL.

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003 and 15 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6 and 8-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 and 8-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/15/2003 has been entered.

Response to Amendment

2. The present Office action is made in response to the amendment (Paper No. 8) filed on 2/19/2003. It is noted that in the mentioned amendment, applicant has amended claim 1 and canceled claims 19-35. As a result of the cancellation, the remaining claims 1, 3-6 and 8-18 are examined in this Office action.

Specification

3. The lengthy specification which is amended by the amendments has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re*

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Ockert, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claim 17/1 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 3/1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

6. Claim 18/1 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 11/1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 3-6, 8, 10-12, 14 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Dixon et al (U.S. Patent No. 5,760,951).

Dixon et al discloses a confocal scanning microscope having an illuminating system, a detecting system and two microscopic lens assemblies disposed opposite to each other with respect to the sample to be illuminated. In columns

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8-9 and figs. 7a, for instance, they teach that the illuminating light is splitted into two light paths by a beam splitter (400) wherein each light path will follow the same optical path length from the beam splitter to the sample (204). In column 9, lines 5+, they disclose the use of polarizing elements wherein one half-wave plate is placed in one light path and a polarizer is placed in other light path for the purpose of preservation the symmetry of the two equal light paths. The polarizing elements used in the light path will act as an optical element for varying the phase or polarization of the light and thereby to modify the shape of illuminating light and/or detected light. While Dixon et al do not clearly state about the feature concerning the principal maxima and the secondary maxima; however, it is noted that the optical element as described in the specification, in particular, in pages 5 and 6, sections [0017] and [0020], are directed to an optical element in the form of a filter or a polarization without any specific limitations concerning the structures of the optical element. Thus, the use of a polarization disclosed by Dixon et al meets the results as recited in present claims 3-6, 8, 14 and 17.

With regard to the feature that the illuminating beam light path has an inherent illumination point spread function and the detecting beam light path has an inherent detection point spread function as recited, it is noted that any beam path still has an inherent point spread function, and the claims fail to recite any specific feature/limitations for the point spread function of either the illumination beam path or the detection beam path.

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9. Claims 1, 3-6, 8-12, 14 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Engelhardt et al (Germany reference No. 199 14 049).

Engelhardt et al discloses a confocal scanning microscope having an illuminating system, a detecting system and two microscopic lens assemblies disposed opposite to each other with respect to the sample to be illuminated. In columns 4-7 and the single figure, they teach that the illuminating light is splitted into two light paths by a beam splitter (5) wherein each light path will follow the same optical path length from the beam splitter to the sample (13). In columns 6-7, they discloses the use of shutters (18), optics (21) and other optical elements in the assembly (8) for the purpose of influencing the interference phenomena, especially phase alignment, and thereby for modification the shape of illuminating light and/or detected light. While Engelhardt et al do not clearly state about the feature concerning the principal maxima and the secondary maxima; however, it is noted that the optical element as described in the specification, in particular, in pages 5 and 6, sections [0017] and [0020], are directed to an optical element in the form of a filter or a polarization without any specific limitations concerning the structures of the optical element. Thus, the use of a polarization disclosed by Dixon et al meets the results as recited in present claims 3-6, 8, 14 and 17.

With regard to the feature that the illuminating beam light path has an inherent illumination point spread function and the detecting beam light path has an inherent detection point spread function as recited, it is noted that any beam path still has an inherent point spread function, and the claims fail to recite any

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specific feature/limitations for the point spread function of either the illumination beam path or the detection beam path.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 9, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelhardt et al in view of Krause (U.S. Patent No. 5,587,832, of record).

The microscope as provided by Engelhardt et al does not disclose that the optical component used to modify the shape of illumination light could be a LCD or a dichroic beam-splitter or an adaptive system having deformable mirror. However, the use of such mentioned element is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present specification in the paragraph [0020] –[0024]. Further, the use of an optical element having function to modify a shape of a light beam which optical element could be one of the mentioned elements is known to one skilled in the art as can be seen in the microscope provided by Krause. In particular, Krause discloses a scanning microscope having an illuminating system and a detecting system. In columns 2-5 and figs. 1-3, he teaches the use of a pattern aperture array (14) in the illuminating beam path and a pattern aperture array (32) in the

detecting beam path. The light from the light source (18) is modified by the array (14) and then reflected from a dichroic element (22) to incident on the specimen (20). The light from the specimen passes through the element (22) to incident onto a detecting system (26). The operations of the arrays (14 and 32) are under the controls of a computerized system. As a result, the illuminating light as well as the detected light are subjected to modifications based on the operations of the arrays. With regard to the position of the optical element as recited in claim 9, such a feature is also not critical to the invention because applicant has also disclosed that the optical element can be placed at any position along the illuminated/detected light path. See present specification in paragraph [0019] and present claim 10. Thus, absent of any criticality, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope provided by Engelhardt et al by utilizing any suitable optical elements including the optical element in the form of a dichroic beam-splitter or an array of deformable mirror as suggested by Krause for the purpose of varying the shape of an illuminating light beam.

Response to Arguments

12. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

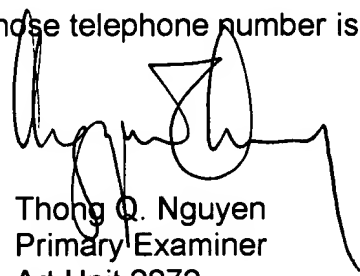
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Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
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June 11, 2003